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10/539,751	06/20/2005	Jeong-ki Kim	HI-0190	5031

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EXAMINER
DARE, RYAN A

ART UNIT	PAPER NUMBER
2186	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
	10/539,751	KIM ET AL.
Office Action Summary	Examiner	Art Unit	
	RYAN DARE	2186	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS,
WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>10 November 2008</u>.

2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-6 and 8-32</u> is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-6 and 8-32</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a) ☐ All   b) ☐ Some * c) ☐ None of:

   1. ☐ Certified copies of the priority documents have been received.

   2. ☐ Certified copies of the priority documents have been received in Application No. _____.

   3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage
      application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date <u>11/10/08</u>

4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____

DETAILED ACTION

Specification

1.   The objections to the specification are withdrawn.

Claim Rejections - 35 USC § 112

2.   The rejection of claim 9 under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention is withdrawn.

Claim Rejections - 35 USC § 102

3.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4.   Claims 1-4, 6-8, 20-24 and 27-28 are rejected under 35 U.S.C. 102(b) as being

anticipated by Tanji, US PGPub 2001/0013269.

5.   With respect to claim 1, Tanji teaches a dual journaling storing method for storing

data in a storage medium, characterized in that data are stored from start and end

locations of the storage medium toward a central location, wherein the central location

is variably formed based on at least one of a respective amount of data to be stored or a

size of a respective storage space in which the data is to be stored, in pars. 33 and 39.

6.   With respect to claim 2, Tanji teaches the dual journaling storing method

according to claim 1, wherein when two types of the data whose kind and characteristic

are different are stored in the storage medium, the two types of data are separately

stored as a front journaling and a rear journaling, respectively, in pars. 33 and 39.

7.   With respect to claim 3, Tanji teaches the dual journaling storing method

according to claim 2, wherein when the front journaling and the rear journaling meet

each other at the central location, data is again stored from the start location and the

end location, respectively, in pars. 39-40.

8.   With respect to claim 4, Tanji teaches the dual journaling storing method

according to claim 2, wherein in a case that a head of the front journaling and a head of

the rear journaling meet each other to form the central location for a first time and then

the central location is formed for the second time or more, the central location moves

toward the other party's journaling when the head of the front journaling or the head of

the rear journaling arrives again at the central location, in pars. 39-40.

9.   With respect to claim 6, Tanji teaches a method for storing data in a storage

medium, comprising the steps of: dividing the data into a first data and a second data;

and storing one of the first data and the second data from a start location of the storage

medium, and storing the other from an end location of the storage medium toward the

start location, wherein in the case that the first data and the second data are stored and

meet each other at a central location, storing corresponding data again from the start location and the end location, respectively, and wherein the central location is variably formed based on at least one of a respective amount of data to be stored or a respective storage space in which the data is to be stored, in pars. 33 and 39-40.

10.   With respect to claim 8, Tanji teaches the method according to claim 6, further comprising: when the central location is formed for the first time and then formed for a subsequent time, moving the central location in a progressing direction of data arriving first at the central location, in pars. 39-40.

11.   Claims 20-24 are rejected for similar reasons as claims 1-4.

12.   With respect to claim 27, Tanji teaches the method according to claim 8, wherein a number of erasures of the storage medium is reduced by said moving the central location for each subsequent time, in pars. 39-40.

13.   With respect to claim 28, Tanji teaches the method according to claim 6, wherein the first data is meta data and the second data is file data, in pars. 33 and 39-40.

Claim Rejections - 35 USC § 103

14.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

15.   The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

     1.   Determining the scope and contents of the prior art.
     2.   Ascertaining the differences between the prior art and the claims at issue.
     3.   Resolving the level of ordinary skill in the pertinent art.
     4.   Considering objective evidence present in the application indicating
        obviousness or nonobviousness.

16.   Claims 5, 25 and 30-32 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Rodriguez et al., US Patent 6,725,241, in view of Tanji

17.   With respect to claim 5, Rodriguez. teaches a dual journaling storing method for

inserting data into a storage medium, comprising:

    when the insertion of the data into the storage medium is requested, performing

a garbage collection if a storage space is insufficient, thereby moving the data and

carrying out an erase operation, in col. 4, line 64 through col. 5, line 9; and

    checking whether there is a sufficient space in the storage medium after the data

storage is completed, thereby securing a storage space for a next inserted data, in col.

4, line 64 through col. 5, line 9. Rodriguez fails to teach garbage collection. Tanji

teaches:

    a dual journaling storing method for inserting data into a storage medium,

comprising: when the erase operation is carried out, the free storage space is secured

and a valid data of the data moves to a head location of at least one of a front journaling

or a rear journaling data of the data journaling, in pars. 39-40.

18.   It would be obvious to one of ordinary skill in the art, having the teachings of
Tanji and Rodriguez before him at the time the invention was made, to modify the
memory access system of Rodriguez with the memory access system of Tanji in order
to allow the storage capacity of a storage device to be effectively used without waste as
a result of running out of space for either type of data, as taught by Tanji in pars. 4-5.

19.   Claim 25 is rejected using similar reasoning as claim 5.

20.   With respect to claim 30, Tanji teaches the method according to claim 25,
wherein when the erase operation is carried out, the free storage space is secured and
a tail corresponding to an end location of at least one of a front journaling data or a rear
journaling data of the respective partitions moves to a central location of the storage
space of the storage medium, in pars. 39-40.

21.   With respect to claim 31, Tanji teaches the method according to claim 25,
wherein when the erase operation is carried out, the free storage space is secured and
a valid data of the data moves to a head location of at least one of a front journaling
data or a rear journaling data of the respective partitions, in pars. 39-40.

22.   With respect to claim 32, Tanji teaches the method according to claim 31,
wherein the central location is variably formed based on at least one of a respective
amount of data to be stored or a size of a respective storage space in which the data is
to be stored from the start and end locations of the storage medium, in pars. 39-40.

23.   Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ban, US
Patent 5,404,485, in view of Tanji.

24.   With respect to claim 9, Ban teaches a flash memory device comprising: a

processor that generates a read/write command for reading/writing data from/to a

specific address; a flash memory that provides a data storage space; and a memory

controller that controls the data to be stored in the flash memory, in col. 3, line 52

through col. 4, line 24. Ban fails to teach that data are stored from the start and end

locations of the data storage space towards a central area and that the central location

is variably formed based on at least one of a respective amount of the data to be stored

or a size of a respective storage space in which the data is to be stored. Tanji resolves

this deficiency in pars. 33 and 39.

25.   It would have been obvious to one of ordinary skill in the art, having the

teachings of Ban and Tanji before him at the time the invention was made, to modify the

memory access system of Ban with the memory access system of Tanji in order to allow

the storage capacity of a storage device to be effectively used without waste as a result

of running out of space for either type of data, as taught by Tanji in pars. 4-5.

26.   Claims 10-19, 26 and 29 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Alexis et al., US Patent 6,260,103, in view of Tanji.

27.   With respect to claim 10, Alexis teaches a multiple-partitioned flash memory

device comprising: a plurality of partitions provided by a multiple partition of the

memory, in which data being stored are independently read, written or erased; a charge

pump for providing a plurality of voltage levels necessary to

read, write and erase the data; and a plurality of first sense amplifiers configured for a

read operation, the read operation being simultaneously executable for the respective

partitions; a plurality of second sense amplifiers including at least one sense

amplifier configured for erase and write operations, the erase and write operations being

simultaneously executable for the respective partitions, in col. 3, lines 11-40 and col. 5,

lines 34-43. Alexis fails to teach that data are stored from the start and end locations of

the data storage space towards a central area and that the central locations are vairably

formed based on at least one of a respective amount of the data to be stored or a size

of a respective storage space in which the data is to be stored in the respective

partitions. Tanji resolves this deficiency in pars. 33 and 39.

28.   It would have been obvious to one of ordinary skill in the art, having the

teachings of Alexis and Tanji before him at the time the invention was made, to modify

the memory access system of Alexis with the memory access system of Tanji in order to

allow the storage capacity of a storage device to be effectively used without waste as a

result of running out of space for either type of data, as taught by Tanji in pars. 4-5.

29.   With respect to claim 11, Tanji teaches the multiple-partitioned flash memory

device according to claim 10, wherein in a case that the data having different

characteristics are stored in the storage medium, the data are separately stored as a

front journaling and a rear journaling, in pars. 33 and 39.

30.   With respect to claim 12, Tanji teaches the multiple-partitioned flash memory

device according to claim 11, wherein in a case that the front journaling and the rear

journaling meet each other at a central location, the data is again stored from the start

location, in pars. 39-40.

31.   With respect to claim 13, Tanji teaches the multiple-partitioned flash memory

device according to claim 11, wherein in a case that a head of the front journaling and a

head of the rear journaling meet each other to form the central location for a first time

and then the central location is formed for a second time or more, the central location

moves toward the other party's journaling when the head of the front journaling or the

head of the rear journaling arrives again at the central location, in pars. 39-40.

32.   With respect to claim 14, Tanji teaches the multiple-partitioned flash memory

device according to claim 10, wherein the data being stored in the respective partitions

are divided into a meta data and a file data, the file data being stored from the start

locations of the respective partitions, the meta data being stored from the end locations

of the respective partitions toward the start locations, in pars. 33 and 39.

33.   With respect to claim 15, Alexis teaches a mobile terminal adopting a multiple-

partitioned memory, the mobile terminal comprising: a bus; a processor connected to

the bus; a flash memory connected to the bus and accessible by the processor, the

flash memory being sectioned into a plurality of partitions, wherein data being stored

according to the respective partitions are independently read, written or erased; a

plurality of first sense amplifiers configured for a first operation, the first operation being

simultaneously executable for the respective partitions; a plurality of second sense

amplifiers including at least one sense amplifier configured for a second operation, the

second operation being simultaneously executable for the respective partitions, in col. 3,

lines 11-40. Alexis fails to teach that data are stored from the start and end locations of

the data storage space towards a central area and that the central locations are variably

formed based on at least one of a respective amount of the data to be stored or a size of a respective storage space in which the data is to be stored in the respective partions. Tanji resolves this deficiency in pars. 33 and 39.

34.   It would have been obvious to one of ordinary skill in the art, having the teachings of Alexis and Tanji before him at the time the invention was made, to modify the memory access system of Alexis with the memory access system of Tanji in order to allow the storage capacity of a storage device to be effectively used without waste as a result of running out of space for either type of data, as taught by Tanji in pars. 4-5.

35.   With respect to claim 16, Tanji teaches the mobile terminal according to claim 15, wherein in a case that the data of different kinds and having different characteristics are different are stored in the storage medium, the data are separately stored as a front journaling and a rear journaling, in pars. 33 and 39.

36.   With respect to claim 17, Tanji teaches the mobile terminal according to claim 16, wherein in a case that the front journaling and the rear journaling meet each other at a central location, the data is again stored from the start location, in pars. 39-40.

37.   With respect to claim 18, Tanji teaches the mobile terminal according to claim 16, wherein in case a head of the front journaling and a head of the rear journaling meet each other to form a central location for the first time and then the central location is formed for a subsequent time, the central location moves toward the other party's journaling when the head of the front journaling or the head of the rear journaling arrives again at the subsequent central location, in pars. 39-40.

38.   With respect to claim 19, Tanji teaches the mobile terminal according to claim 15, wherein the data being stored in the respective partitions are divided into a meta data and a file data, the file data being stored from the start locations of the respective partitions, the meta data being stored from the end locations of the respective partitions toward the start locations, in pars. 39-40.

39.   With respect to claim 26, Alexis teaches a mobile terminal comprising:

a bus; a processor connected to the bus; a memory connected to the bus, data being read/written form/to the memory; and a memory controller that controls the data to be written, in col. 3, lines 11-40. Alexis fails to teach that data are stored from the start and end locations of the data storage space towards a central area and that the central location is variably formed based on at least one of a respective amount of the data to be stored or a size of a respective storage space in which the data is to be stored. Tanji resolves this deficiency in pars. 33 and 39.

40.   It would have been obvious to one of ordinary skill in the art, having the teachings of Alexis and Tanji before him at the time the invention was made, to modify the memory access system of Alexis with the memory access system of Tanji in order to allow the storage capacity of a storage device to be effectively used without waste as a result of running out of space for either type of data, as taught by Tanji in pars. 4-5.

41.   With respect to claim 29, Alexis teaches the mobile terminal according to claim 15, wherein the first operation is a read operation and the second operation is a write or an erase operation, in col. 3, lines 11-40

42. Applicant's arguments filed 11/10/08 have been fully considered but they are not persuasive. Tanji teaches "wherein the central location is variably formed based on at least one of a respective amount of data to be stored or a size of a respective storage space in which the data is to be store" in the previously cited pars. 33 and 39-40, with reference to fig. 6. As you can see in fig. 6, the song management data meets the song data in a shared address section. Therefore, they are meeting at a variable point, based on the length of each song.

Conclusion

43. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RYAN DARE whose telephone number is (571)272-4069. The examiner can normally be reached on Mon-Fri 9:30-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matt Kim can be reached on (571)272-4182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Matt Kim/
Supervisory Patent Examiner, Art Unit 2186

/Ryan Dare/
January 19, 2009